Specification Amendments

Page 1, lines 8-15:

BACKGROUND OF THE INVENTION

~~The present invention describes improvements to the Perlin Noise function. These improvements: *(i)* improve the appearance of Perlin Noise, greatly reducing artifacts that were present in the original version, and *(ii)* allow for an efficient implementation at gate-level hardware, thereby facilitating performance improvement by a factor of 1000 over the software implementation now in common use.~~

Page 7, line 19 through page 8, line 15:

SUMMARY OF THE INVENTION

The present invention describes improvements to the Perlin Noise function. These improvements: *(i)* improve the appearance of Perlin Noise, greatly reducing artifacts that were present in the original version, and *(ii)* allow for an efficient implementation at

gate-level hardware, thereby facilitating performance improvement by a factor of 1000 over the software implementation now in common use.

~~The present invention pertains to an apparatus for creating an appearance of texture in a computer image. The apparatus comprises a computer. The apparatus comprises a mechanism for inputting a point $\{x_d\}$ in D-dimensional geometric space RD described via D M bit quantities i_d and D N bit quantities u_d, where i_d are M bit representations of greatest integers not $> x_d$ and u_d are N bit representations of remainders $(x_d - i_d)$, where M and N are integers ≥ 4, in the computer. The apparatus comprises a mechanism for computing a pseudo-random hash value at each vertex of a unit cube C surrounding the point. The apparatus comprises a mechanism for computing a contribution from each vertex using the hash-value. The apparatus comprises a mechanism for combining with the computer the contribution from each vertex into a single interpolated result.~~

~~The present invention pertains to a method for creating an appearance of texture in a computer image. The method comprises the steps of inputting a point $\{x_d\}$ in D-dimensional geometric space RD described via D M bit quantities i_d and D N bit quantities u_d, where i_d are M bit representations of greatest integers not $> x_d$ and u_d are N bit representations of remainders $(x_d - i_d)$ where M and N are integers ≥ 4, in a computer. Then there is the step of computing a pseudo-random hash value at each vertex of a unit cube C~~

~~surrounding the point. Next there is the step of computing a contribution from each vertex using the hash-value. Then there is the step of combining with the computer the contribution from each vertex into a single interpolated result.~~